Aharon, P. (1991): Recorders of reef environment histories: stable isotopes in corals, giant clams, and calcareous algae.- Coral reefs, 10/2: 71-90.

PALEOENVIRONMENT OF THE CENTRAL RED SEA DURINGTHE LAST 370,000 YEARS

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The cores cover a time span of ca. 370,000 y. In the case of KL11, the isotopic record has to be read as a salinity signal, rather than temperature or ice-volume signals, reflecting the special situation of this desert-enclosed marginal sea. The global sea-level changes affect the water exchange through the Strait of Bab el Mandeb. The unusal enrichment in ^{18}O mainly reflects the pumping efficiency of the high evaporation conditions coupled with the monsoon-driven surface waters (in- and outflow) between the Gulf of Aden and the Red Sea. The large-scale salinity fluctuations imposed on an already extreme marine environment causes pronounced variation in the calcareous plankton production, thus shaping the carbonate content curve. Milankovitch cyclicity (here the precession) in terms of the monsoon index (Rossignol-Strick, 1983) coincides with dominances of *Globigerinoides ruber* in the central Red Sea, indicating nutrient-rich, intermediate water driven by the SE Monsoon.

SURFACE-WATER REGIMES AND GLACIOMARINE PROCESSES IN THE NORWEGIAN-GREENLAND SEA I: MODERN REGIMES

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Based on the principle of actualism, a set of specific sedimentological and micropaleontological parameters has been used to identify the imprint of modern surface-water masses and glaciomarine processes in surface sediments. Combined with signals from biologic activity and geochemical processes at the benthic boundary, a general facies concept of pelagic and glaciomarine deposits from the Norwegian-Greenland Sea has been developed. Application of this concept in deep-sea sediment cores allows back-tracing of surface-water regimes and reconstruction of ice-drift patterns in the past.

SURFACE-WATER REGIMES AND GLACIOMARINE PROCESSES IN THE NORWEGIAN GREENLAND SEA II: THE PAST 450 KY

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Using the facies concept presented by Henrich et al. (this volume), surface-water regimes and glaciomarine processes were reconstructed for the past 450 ky. Circulation patterns in the Norwegian-Greenland Sea were quite variable, responding to glacial/interglacial climatic changes. Relatively warm conditions in a wide extension of Atlantic waters into the eastern sector is recorded during the isotopic events 11.1, 5.5.1, 5.1 and 1. Temperate interglacials with rather small intrusions of Atlantic waters are indicated for the isotopic events 9.3, 7.5, 7.3 - 7.1, 5.4 and 5.3. During the interglacial stages 7.4 and 5.2 a strong cooling